

SEQUENCE LISTING

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<120> Fluorescent protein and color protein

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Gly Thr Gly Gln Pro Tyr Glu Gly Thr Gln Cys Ile Gln Leu Arg Val

35

40

45

Glu Lys Gly Gly Pro Leu Pro Phe Ser Val Asp Ile Leu Ser Ala Ala

50

55

60

Phe Leu Tyr Gly Asn Arg Cys Met Thr Lys Tyr Pro Gly Gly Ile Val

65

70

75

80

Asp Tyr Phe Lys Asn Ser Cys Pro Ala Gly Tyr Thr Trp Glu Arg Ser

85

90

95

Phe Leu Phe Glu Asp Gly Ala Val Cys Thr Ala Ser Ala Asp Ile Arg

100

105

110

Leu Ser Val Glu Asp Asn Cys Phe Tyr His Glu Ser Lys Phe Ser Gly

115

120

125

Val Asn Phe Pro Val Asp Gly Pro Val Met Thr Leu Ala Thr Thr Gly

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Gly Asp Val Thr Met Tyr Leu Leu Leu Lys Asp Gly Gly Arg Tyr Arg			
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Cys Gln Phe Asn Ser Asn Tyr Lys Ala Lys Thr Glu Pro Lys Glu Met			
180	185	190	
Pro Asp Phe His Phe Val Glu His Lys Ile Val Arg Thr Asp Leu Gly			
195	200	205	
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Gly Thr Gly Gln Pro Tyr Glu Gly Thr Gln Cys Ile Gln Leu Arg Val			
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 ttt cta tac gga aac agg tgc atg acc aaa tat cct gga ggc ata gtt 240  
 Phe Leu Tyr Gly Asn Arg Cys Met Thr Lys Tyr Pro Gly Gly Ile Val  
 65 70 75 80  
 gac tat ttc aag aac tca tgc cct gct gga tat aca tgg gaa agg tct 288  
 Asp Tyr Phe Lys Asn Ser Cys Pro Ala Gly Tyr Thr Trp Glu Arg Ser  
 85 90 95  
 ttt ctc ttt gaa gat ggc gcg gtg tgc aca gca agt gca gat ata cgc 336  
 Phe Leu Phe Glu Asp Gly Ala Val Cys Thr Ala Ser Ala Asp Ile Arg  
 100 105 110  
 ttg agt gtc gag gat aac tgc ttt tat cac gaa tcc aag ttt agt gga 384  
 Leu Ser Val Glu Asp Asn Cys Phe Tyr His Glu Ser Lys Phe Ser Gly  
 115 120 125  
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 130 135 140  
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 Trp Glu Pro Ser Ser Glu Lys Met Val Pro Ser Gly Gly Ile Val Lys  
 145 150 155 160  
 ggg gat gtc acc atg tac ctc ctt ctg aag gat ggt ggg cgt tac cgg 528  
 Gly Asp Val Thr Met Tyr Leu Leu Leu Lys Asp Gly Gly Arg Tyr Arg  
 165 170 175  
 tgc cag ttc aac agt aat tac aag gca aag act gag ccg aaa gag atg 576  
 Cys Gln Phe Asn Ser Asn Tyr Lys Ala Lys Thr Glu Pro Lys Glu Met  
 180 185 190

cca gac ttt cac ttc gtg gag cat aag atc gta agg acc gac ctc ggt 624  
Pro Asp Phe His Phe Val Glu His Lys Ile Val Arg Thr Asp Leu Gly  
195 200 205  
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Ile Ile Lys Pro Ala Gly Lys Pro Leu Pro Phe Ser Phe Asp Ile Leu  
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Ser Ser Val Phe His Tyr Gly Asn Arg Cys Phe Thr Lys Tyr Pro Ala  
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Asp Met Pro Asp Tyr Phe Lys Gln Ala Phe Pro Asp Gly Met Ser Tyr  
85 90 95  
Glu Arg Ser Phe Leu Phe Glu Asp Gly Ala Val Ala Thr Ala Ser Trp

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145	150	155
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Arg Gly Asp Val Thr Met Phe Leu Met Leu Glu Gly Gly Ser His		
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Arg Cys Gln Phe His Ser Thr Tyr Lys Thr Glu Lys Pro Val Ala Met		
180	185	190
Pro Pro Asn His Val Val Glu His Gln Ile Val Arg Thr Asp Leu Gly		
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Tyr His Met Glu Gly Ser Val Asn Gly His Glu Phe Thr Ile Glu Gly		

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atc atc aag cct gcg gga aaa ccc ctt cca ttc tcc ttt gac ata ctg 192  
Ile Ile Lys Pro Ala Gly Lys Pro Leu Pro Phe Ser Phe Asp Ile Leu  
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tca tca gtc ttt cat tat gga aac agg tgc ttc aca aag tac cct gca 240  
Ser Ser Val Phe His Tyr Gly Asn Arg Cys Phe Thr Lys Tyr Pro Ala  
65 70 75 80  
gac atg cct gac tat ttc aag caa gca ttc cca gat gga atg tcg tat 288  
Asp Met Pro Asp Tyr Phe Lys Gln Ala Phe Pro Asp Gly Met Ser Tyr  
85 90 95  
gaa agg tca ttt cta ttt gaa gat gga gca gtt gct aca gcc agc tgg 336  
Glu Arg Ser Phe Leu Phe Glu Asp Gly Ala Val Ala Thr Ala Ser Trp  
100 105 110  
aac att cgt ctc gaa gga aat tgc ttc atc cac aat tcc atc ttt cat 384  
Asn Ile Arg Leu Glu Gly Asn Cys Phe Ile His Asn Ser Ile Phe His  
115 120 125  
ggc gta aac ttt ccc gct gat gga ccc gta atg aaa aag cag aca att 432  
Gly Val Asn Phe Pro Ala Asp Gly Pro Val Met Lys Lys Gln Thr Ile  
130 135 140  
gac tgg gag aag tcc ttc gaa aaa atg act gtg tct aaa gag gtg cta 480  
Asp Trp Glu Lys Ser Phe Glu Lys Met Thr Val Ser Lys Glu Val Leu  
145 150 155 160  
aga ggt gat gtg act atg ttt ctt atg ctc gaa gga ggt ggt tct cac 528  
Arg Gly Asp Val Thr Met Phe Leu Met Leu Glu Gly Gly Ser His

165	170	175
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Arg Cys Gln Phe His Ser Thr Tyr Lys Thr Glu Lys Pro Val Ala Met		
180	185	190
ccc ccg aat cat gtc gta gaa cat caa att gtg agg acc gac ctt ggc 624		
Pro Pro Asn His Val Val Glu His Gln Ile Val Arg Thr Asp Leu Gly		
195	200	205
caa agt gca aaa ggc ttt aca gtc aag ctg gaa gca cat gct gtg gct 672		
Gln Ser Ala Lys Gly Phe Thr Val Lys Leu Glu Ala His Ala Val Ala		
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35	40	45
Ile Ile Lys Ser Lys Gly Lys Pro Leu Pro Phe Ser Phe Asp Ile Leu		
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Ser Thr Ala Phe Gln Tyr Gly Asn Arg Cys Phe Thr Lys Tyr Pro Ala		

65 70 75 80

Asp Met Pro Asp Tyr Phe Lys Gln Ala Phe Pro Asp Gly Met Ser Tyr

85 90 95

Glu Arg Ser Phe Leu Phe Glu Asp Gly Gly Val Ala Thr Ala Ser Trp

100 105 110

Ser Ile Arg Leu Glu Gly Asn Cys Phe Ile His Asn Ser Ile Tyr His

115 120 125

Gly Val Asn Phe Pro Ala Asp Gly Pro Val Met Lys Lys Gln Thr Ile

130 135 140

Gly Trp Asp Lys Ser Phe Glu Lys Met Ser Val Ala Lys Glu Val Leu

145 150 155 160

Arg Gly Asp Val Thr Gln Phe Leu Leu Glu Gly Gly Tyr Gln

165 170 175

Arg Cys Arg Phe His Ser Thr Tyr Lys Thr Glu Lys Pro Val Ala Met

180 185 190

Pro Pro Ser His Val Val Glu His Gln Ile Val Arg Thr Asp Leu Gly

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Gln Thr Ala Lys Gly Phe Lys Val Lys Leu Glu Glu His Ala Glu Ala

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His Val Asn Pro Leu Lys Val Lys

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<212> DNA

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Tyr Arg Met Glu Gly Ser Val Asn Gly His Glu Phe Thr Ile Glu Gly  
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gta gga act gga aac cct tac gaa ggg aaa cag atg tcc gaa tta gtg 144  
Val Gly Thr Gly Asn Pro Tyr Glu Gly Lys Gln Met Ser Glu Leu Val  
35 40 45  
atc atc aag tct aag gga aaa ccc ctt cca ttc tcc ttt gac ata ctg 192  
Ile Ile Lys Ser Lys Gly Lys Pro Leu Pro Phe Ser Phe Asp Ile Leu  
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tca aca gcc ttt caa tat gga aac aga tgc ttc aca aag tac cct gca 240  
Ser Thr Ala Phe Gln Tyr Gly Asn Arg Cys Phe Thr Lys Tyr Pro Ala  
65 70 75 80  
gac atg cct gac tat ttc aag caa gca ttc cca gat gga atg tca tat 288  
Asp Met Pro Asp Tyr Phe Lys Gln Ala Phe Pro Asp Gly Met Ser Tyr  
85 90 95  
gaa agg tca ttt cta ttt gag gat gga gga gtt gct aca gcc agc tgg 336  
Glu Arg Ser Phe Leu Phe Glu Asp Gly Gly Val Ala Thr Ala Ser Trp  
100 105 110  
agc att cgt ctc gaa gga aat tgc ttc atc cac aat tcc atc tat cat 384  
Ser Ile Arg Leu Glu Gly Asn Cys Phe Ile His Asn Ser Ile Tyr His  
115 120 125  
ggc gta aac ttt ccc gct gat gga ccc gta atg aag aag cag aca att 432  
Gly Val Asn Phe Pro Ala Asp Gly Pro Val Met Lys Lys Gln Thr Ile  
130 135 140  
ggc tgg gat aag tcc ttc gaa aaa atg agt gtg gct aaa gag gtg cta 480

Gly Trp Asp Lys Ser Phe Glu Lys Met Ser Val Ala Lys Glu Val Leu  
145 150 155 160  
aga ggt gat gtg act cag ttt ctt ctg ctc gaa gga ggt ggt tac cag 528  
Arg Gly Asp Val Thr Gln Phe Leu Leu Glu Gly Gly Tyr Gln  
165 170 175  
aga tgc cgg ttt cac tcc act tac aaa acg gag aag cca gtc gca atg 576  
Arg Cys Arg Phe His Ser Thr Tyr Lys Thr Glu Lys Pro Val Ala Met  
180 185 190  
ccc ccg agt cat gtc gta gaa cat caa att gtg agg acc gac ctt ggc 624  
Pro Pro Ser His Val Val Glu His Gln Ile Val Arg Thr Asp Leu Gly  
195 200 205  
caa act gca aaa ggc ttc aag gtc aag ctg gaa gaa cat gct gag gct 672  
Gln Thr Ala Lys Gly Phe Lys Val Lys Leu Glu Glu His Ala Glu Ala  
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cat gtt aac cct ttg aag gtt aaa taa 699  
His Val Asn Pro Leu Lys Val Lys  
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Val Gly Thr Gly Asn Pro Tyr Glu Gly Lys Gln Met Ser Glu Leu Val

35	40	45
Ile Ile Lys Ser Lys Gly Lys Pro Leu Pro Phe Ser Phe Asp Ile Leu		
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Ser Thr Ala Phe Gln Tyr Gly Asn Arg Cys Phe Thr Lys Tyr Pro Ala		
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Asp Met Pro Asp Tyr Phe Lys Gln Ala Phe Pro Asp Gly Met Ser Tyr		
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Glu Arg Ser Phe Leu Phe Glu Asp Gly Gly Val Ala Thr Ala Ser Trp		
100	105	110
Ser Ile Arg Leu Glu Gly Asn Cys Phe Ile His Asn Ser Ile Tyr His		
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Gly Val Asn Phe Pro Ala Asp Gly Pro Val Met Lys Lys Gln Thr Ile		
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Gly Trp Asp Lys Ser Phe Glu Lys Met Ser Val Ala Lys Glu Val Leu		
145	150	155
Arg Gly Asp Val Thr His Phe Leu Leu Leu Glu Gly Gly Tyr Gln		
165	170	175
Arg Cys Arg Phe His Ser Thr Tyr Lys Thr Glu Lys Pro Val Ala Met		
180	185	190
Pro Pro Ser His Val Val Glu His Gln Ile Val Arg Thr Asp Leu Gly		
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Gln Thr Ala Lys Gly Phe Lys Val Lys Leu Glu Glu His Ala Glu Ala		
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Tyr Arg Met Glu Gly Ser Val Asn Gly His Glu Phe Thr Ile Glu Gly

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25

30

gta gga act gga aac cct tac gaa ggg aaa cag atg tcc gaa tta gtg 144

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45

atc atc aag tct aag gga aaa ccc ctt cca ttc tcc ttt gac ata ctg 192

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55

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gac atg cct gac tat ttc aag caa gca ttc cca gat gga atg tca tat 288

Asp Met Pro Asp Tyr Phe Lys Gln Ala Phe Pro Asp Gly Met Ser Tyr

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gaa agg tca ttt cta ttt gag gat gga gga gtt gct aca gcc agc tgg 336

Glu Arg Ser Phe Leu Phe Glu Asp Gly Gly Val Ala Thr Ala Ser Trp

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105

110

agc att cgt ctc gaa gga aat tgc ttc atc cac aat tcc atc tat cat 384

Ser Ile Arg Leu Glu Gly Asn Cys Phe Ile His Asn Ser Ile Tyr His

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120

125

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130 135 140

ggc tgg gat aag tcc ttc gaa aaa atg agt gtg gct aaa gag gtg cta 480  
Gly Trp Asp Lys Ser Phe Glu Lys Met Ser Val Ala Lys Glu Val Leu  
145 150 155 160

aga ggt gat gtg act cat ttt ctt ctg ctc gaa gga ggt ggt tac cag 528  
Arg Gly Asp Val Thr His Phe Leu Leu Glu Gly Gly Tyr Gln  
165 170 175

aga tgc cgg ttt cac tcc act tac aaa acg gag aag cca gtc gca atg 576  
Arg Cys Arg Phe His Ser Thr Tyr Lys Thr Glu Lys Pro Val Ala Met  
180 185 190

ccc ccg agt cat gtc gta gaa cat caa att gtg agg acc gac ctt ggc 624  
Pro Pro Ser His Val Val Glu His Gln Ile Val Arg Thr Asp Leu Gly  
195 200 205

caa act gca aaa ggc ttc aag gtc aag ctg gaa gaa cat gct gag gct 672  
Gln Thr Ala Lys Gly Phe Lys Val Lys Leu Glu Glu His Ala Glu Ala  
210 215 220

cat gtt aac cct ttg aag gtt aaa taa 699  
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Val Val Glu Gly Pro Leu Pro Phe Ser Glu Asp Ile Leu Ser Ala			
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Val Phe Asp Tyr Gly Asn Arg Val Phe Thr Lys Tyr Pro Gln Asp Leu			
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Val Asp Tyr Phe Lys Asn Ser Cys Pro Ala Gly Tyr Thr Trp Gln Arg			
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Ser Phe Leu Phe Glu Asp Gly Ala Val Cys Thr Ala Ser Ala Asp Ile			
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Arg Val Ser Val Glu Glu Asn Cys Phe Tyr His Glu Ser Lys Phe His			
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Gly Val Asn Phe Pro Ala Asp Gly Pro Val Met Lys Lys Met Thr Thr			
130	135	140	
Asn Trp Glu Pro Ser Cys Glu Lys Ile Thr Pro Ile Leu Asn Glu Gly			
145	150	155	160
Ile Leu Lys Gly Asp Val Thr Met Phe Leu Leu Lys Asp Gly Gly			
165	170	175	
Arg Tyr Arg Cys Gln Phe Asp Thr Val Tyr Lys Ala Lys Ala Asp Ala			
180	185	190	
Lys Lys Met Pro Glu Trp His Phe Ile Gln His Lys Leu Thr Arg Glu			
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Asp Arg Ser Asp Ala Lys His Gln Lys Trp Arg Leu Val Glu Asn Ala			
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 Arg Met Glu Gly Cys Val Asp Gly His Lys Phe Val Ile Thr Gly Asp  
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ggc att gga gat cct ttc gaa ggg aaa cag act agt att gat ctg tgt 144  
 Gly Ile Gly Asp Pro Phe Glu Gly Lys Gln Thr Ser Ile Asp Leu Cys  
 35 40 45

gtg gtt gaa ggg gga cca ctg cca ttc tcc gaa gat ata ttg tct gct 192  
 Val Val Glu Gly Pro Leu Pro Phe Ser Glu Asp Ile Leu Ser Ala  
 50 55 60

gtg ttt gac tac gga aac agg gtc ttt act aaa tat cct caa gac ctt 240  
 Val Phe Asp Tyr Gly Asn Arg Val Phe Thr Lys Tyr Pro Gln Asp Leu  
 65 70 75 80

gtt gac tat ttc aag aac tca tgt cct gct gga tat aca tgg caa agg 288  
 Val Asp Tyr Phe Lys Asn Ser Cys Pro Ala Gly Tyr Thr Trp Gln Arg  
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tct ttt ctc ttt gaa gat ggt gca gtt tgc aca gcc agt gca gat ata 336  
 Ser Phe Leu Phe Glu Asp Gly Ala Val Cys Thr Ala Ser Ala Asp Ile

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Arg Val Ser Val Glu Glu Asn Cys Phe Tyr His Glu Ser Phe His		
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gga gtg aac ttt cct gct gat gga cct gtg atg aaa aag atg aca act 432		
Gly Val Asn Phe Pro Ala Asp Gly Pro Val Met Lys Lys Met Thr Thr		
130	135	140
aat tgg gaa cca tcc tgc gag aaa atc aca cca ata ctt aat gag ggg 480		
Asn Trp Glu Pro Ser Cys Glu Lys Ile Thr Pro Ile Leu Asn Glu Gly		
145	150	155
ata ttg aaa gga gat gtc acc atg ttc ctc ctt ctg aag gat ggt ggg 528		
Ile Leu Lys Gly Asp Val Thr Met Phe Leu Leu Lys Asp Gly Gly		
165	170	175
cgt tac cgg tgc cag ttc gac aca gtt tac aaa gca aag gct gac gca 576		
Arg Tyr Arg Cys Gln Phe Asp Thr Val Tyr Lys Ala Lys Ala Asp Ala		
180	185	190
aaa aag atg ccg gaa tgg cac ttc atc caa cat aag ctc acc cgg gaa 624		
Lys Lys Met Pro Glu Trp His Phe Ile Gln His Lys Leu Thr Arg Glu		
195	200	205
gac cgc agc gat gct aag cac cag aaa tgg cga ctg gta gaa aat gct 672		
Asp Arg Ser Asp Ala Lys His Gln Lys Trp Arg Leu Val Glu Asn Ala		
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att gca tac cga tcc aca tta ccc tga		
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Ile Ala Tyr Arg Ser Thr Leu Pro		
225	230	
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<212> PRT

<213> Actinia equina

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35 40 45  
Gly Pro Leu Pro Phe Ala Tyr Asp Ile Leu Ala Pro Cys Cys Met Tyr  
50 55 60  
Gly Ser Lys Thr Phe Ile Lys His Val Ser Gly Ile Pro Asp Tyr Phe  
65 70 75 80  
Lys Asp Ser Leu Pro Glu Gly Tyr Thr Trp Glu Arg Thr Gln Ile Tyr  
85 90 95  
Glu Asp Gly Gly Tyr Leu Thr Ile His Gln Asp Thr Ser Ile Gln Gly  
100 105 110  
Asp Ser Phe Ile Phe Lys Val Lys Val Ile Gly Ala Asn Phe Pro Ala  
115 120 125  
Asn Gly Pro Val Met Gln Lys Lys Thr Ala Gly Trp Glu Pro Cys Val  
130 135 140  
Glu Met Leu Tyr Pro Arg Asp Gly Val Leu Cys Gly Gln Ser Leu Met  
145 150 155 160  
Ala Leu Lys Cys Thr Asp Gly Asn His Leu Thr Ser His Leu Arg Thr  
165 170 175  
Thr Tyr Arg Ser Arg Lys Pro Ala Asn Ala Val Asn Met Pro Lys Phe  
180 185 190

His Phe Gly Asp His Arg Ile Glu Ile Leu Lys Glu Ala Glu Pro Gly  
 195 200 205  
 Lys Phe Tyr Glu Gln Tyr Glu Ser Ala Val Ala Arg Tyr Cys Glu Ala  
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 Gly Thr Val Asn Gly His His Phe Lys Cys Val Gly Glu Gly Glu Gly  
 20 25 30  
 aag cca ttt gaa ggt acc cag gag gaa aag ata aga atc act gaa gga 144  
 Lys Pro Phe Glu Gly Thr Gln Glu Glu Lys Ile Arg Ile Thr Glu Gly  
 35 40 45  
 ggt ccc tta cca ttt gcg tac gat att ttg gca cct tgt tgc atg tat 192  
 Gly Pro Leu Pro Phe Ala Tyr Asp Ile Leu Ala Pro Cys Cys Met Tyr  
 50 55 60  
 gga agc aaa acc ttc atc aag cat gtc tca ggg att cca gat tac ttc 240  
 Gly Ser Lys Thr Phe Ile Lys His Val Ser Gly Ile Pro Asp Tyr Phe  
 65 70 75 80  
 aag gat tct tta cct gaa gga tac act tgg gaa aga acc caa atc tac 288

Lys Asp Ser Leu Pro Glu Gly Tyr Thr Trp Glu Arg Thr Gln Ile Tyr  
 85 90 95  
 gag gat gga ggc tat ctt acc att cac cag gac aca agc ata cag gga 336  
 Glu Asp Gly Gly Tyr Leu Thr Ile His Gln Asp Thr Ser Ile Gln Gly  
 100 105 110  
 gat agc ttt att ttc aag gtt aaa gtc atc ggt gcc aac ttc cct gcc 384  
 Asp Ser Phe Ile Phe Lys Val Lys Val Ile Gly Ala Asn Phe Pro Ala  
 115 120 125  
 aat ggt ccc gtg atg cag aag aaa aca gcc gga tgg gaa cca tgc gta 432  
 Asn Gly Pro Val Met Gln Lys Lys Thr Ala Gly Trp Glu Pro Cys Val  
 130 135 140  
 gag atg ctt tat cca cgt gac gga gtc ctg tgt ggg cag tcc ttg atg 480  
 Glu Met Leu Tyr Pro Arg Asp Gly Val Leu Cys Gly Gln Ser Leu Met  
 145 150 155 160  
 gcc ctg aaa tgc act gat ggt aac cat ttg acg agc cat ctg cga act 528  
 Ala Leu Lys Cys Thr Asp Gly Asn His Leu Thr Ser His Leu Arg Thr  
 165 170 175  
 act tac agg tcc aga aag cca gcc aat gcg gtt aat atg cca aaa ttt 576  
 Thr Tyr Arg Ser Arg Lys Pro Ala Asn Ala Val Asn Met Pro Lys Phe  
 180 185 190  
 cat ttt gga gac cat cgc att gag ata cta aag gaa gca gaa cca ggc 624  
 His Phe Gly Asp His Arg Ile Glu Ile Leu Lys Glu Ala Glu Pro Gly  
 195 200 205  
 aag ttt tat gaa cag tac gaa tca gca gtg gcc agg tac tgt gaa gct 672  
 Lys Phe Tyr Glu Gln Tyr Glu Ser Ala Val Ala Arg Tyr Cys Glu Ala  
 210 215 220  
 gca cca tca aag ctt gga cat cac taa 699

Ala Pro Ser Lys Leu Gly His His

225 230

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<212> PRT

<213> *Lobophytum crassum*

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Asn Val Asn Gly His Ala Phe Val Ile Glu Gly Asp Gly Lys Gly Lys

20 25 30

Pro Tyr Asp Gly Thr Gln Thr Leu Asn Leu Thr Val Lys Glu Gly Ala

35 40 45

Pro Leu Pro Phe Ser Tyr Asp Ile Leu Thr Asn Ala Phe Gln Tyr Gly

50 55 60

Asn Arg Ala Phe Thr Lys Tyr Pro Ala Asp Ile Pro Asp Tyr Phe Lys

65 70 75 80

Gln Thr Phe Pro Glu Gly Tyr Ser Trp Glu Arg Thr Met Ser Tyr Glu

85 90 95

Asp Asn Ala Ile Cys Asn Val Arg Ser Glu Ile Ser Met Glu Gly Asp

100 105 110

Cys Phe Ile Tyr Lys Ile Arg Phe Asp Gly Lys Asn Phe Pro Pro Asn

115 120 125

Gly Pro Val Met Gln Lys Lys Thr Leu Lys Trp Glu Pro Ser Thr Glu

130 135 140

Met Met Tyr Val Arg Asp Gly Phe Leu Met Gly Asp Val Asn Met Ala

145 150 155 160

Leu Leu Leu Glu Gly Gly His His Arg Cys Asp Phe Lys Thr Ser  
165 170 175

Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His Tyr Val Asp  
180 185 190

His Arg Ile Glu Ile Leu Ser His Asp Arg Asp Tyr Ser Lys Val Lys  
195 200 205

Leu Tyr Glu Asn Ala Val Ala Arg Tyr Ser Leu Leu Pro Ser Gln Ala  
210 215 220

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<212> DNA

<213> *Lobophytum crassum*

<400> 14

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Met Ser Val Ile Lys Gln Glu Met Lys Ile Lys Leu His Met Glu Gly  
1 5 10 15

aat gta aac ggt cat gca ttt gtg att gaa gga gat gga aaa gga aag 96  
Asn Val Asn Gly His Ala Phe Val Ile Glu Gly Asp Gly Lys Gly Lys  
20 25 30

cct tac gat ggg aca cag act tta aac ctg aca gtg aaa gaa ggc gca 144  
Pro Tyr Asp Gly Thr Gln Thr Leu Asn Leu Thr Val Lys Glu Gly Ala  
35 40 45

cct ctc cct ttt tct tac gac atc ttg aca aat gcg ttc cag tac gga 192  
Pro Leu Pro Phe Ser Tyr Asp Ile Leu Thr Asn Ala Phe Gln Tyr Gly  
50 55 60

aat aga gca ttc act aaa tat cca gcc gat ata cca gac tat ttc aag 240  
Asn Arg Ala Phe Thr Lys Tyr Pro Ala Asp Ile Pro Asp Tyr Phe Lys

65	70	75	80
cag acg ttt ccc gag ggg tat tca tgg gaa aga acc atg agt tat gaa 288			
Gln Thr Phe Pro Glu Gly Tyr Ser Trp Glu Arg Thr Met Ser Tyr Glu			
85	90	95	
gac aac gcc att tgc aac gtg aga agc gag atc agc atg gaa ggc gac 336			
Asp Asn Ala Ile Cys Asn Val Arg Ser Glu Ile Ser Met Glu Gly Asp			
100	105	110	
tgc ttt atc tat aaa att cgg ttt gat ggc aag aac ttt ccc ccc aat 384			
Cys Phe Ile Tyr Lys Ile Arg Phe Asp Gly Lys Asn Phe Pro Pro Asn			
115	120	125	
ggc cca gtt atg cag aag aaa act ttg aag tgg gaa cca tcc act gag 432			
Gly Pro Val Met Gln Lys Lys Thr Leu Lys Trp Glu Pro Ser Thr Glu			
130	135	140	
atg atg tac gtg cgt gat ggg ttt ctg atg ggt gat gtt aac atg gct 480			
Met Met Tyr Val Arg Asp Gly Phe Leu Met Gly Asp Val Asn Met Ala			
145	150	155	160
ctg ttg ctt gaa gga ggt ggc cat cac cga tgt gac ttc aaa act tcc 528			
Leu Leu Leu Glu Gly Gly His His Arg Cys Asp Phe Lys Thr Ser			
165	170	175	
tac aaa gcg aaa aag gtt gtg cag ttg cca gat tat cac tat gtg gac 576			
Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His Tyr Val Asp			
180	185	190	
cat cgt atc gag atc ttg agc cat gac agg gat tac agc aaa gtc aag 624			
His Arg Ile Glu Ile Leu Ser His Asp Arg Asp Tyr Ser Lys Val Lys			
195	200	205	
ctg tat gag aat gcg gtt gct cgc tat tct ttg ctg cca agt cag gcc 672			
Leu Tyr Glu Asn Ala Val Ala Arg Tyr Ser Leu Leu Pro Ser Gln Ala			

210	215	220
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gaaggrtgyg tcaaayggcra y		21
<210> 16		
<211> 23		
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acvggdccat ydgvaagaaa rtt		23
<210> 17		
<211> 36		
<212> DNA		
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ccatcttcaa agagaaaaga ccttt 25

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<213> Artificial Sequence

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<400> 19

ggccacgcgt cgactagtagac 20

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<213> Artificial Sequence

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<210> 21

<211> 22

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<400> 22

gggggatccg accatggctc tttcaaagcg aggtg 35

<210> 23

<211> 26

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic DNA

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<210> 24

<211> 23

<212> DNA

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tctgtttcca tattgaaagg ctg 23  
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<210> 29

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<210> 31

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atggctcttt caaaggcacgg tc 22

<210> 32

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gggggatccg accatggctc tttcaaagca cggtc 35

<210> 33

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ccttgaaaat aaagctatct 20  
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cccgatccg accatggtgt cttcattggtaagaa 36  
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<400> 38

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<210> 39

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aactggaaga attcgccggcc gcaggaa 27

<210> 40

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<210> 41

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<400> 41

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ggccacgcgt cgactagtag 20

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<210> 44

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<400> 44

cccgatccg atgagtgtga ttacawcaga aatgaagatg gagc 44